REMARKS

This amendment is responsive to the Advisory Action dated October 11, 2006. Claims 31, 33 – 38, and 81 – 88 are pending in the application and have been rejected. (Although the Advisory Action lists pending claims as 31, 33 – 38, and 80 – 88, claim 80 is not pending. It was removed from consideration in the Response to Restriction Requirement filed on July 15, 2005.) Reexamination is respectfully requested in view of the foregoing amendments in the claims and following remarks.

Applicant has deleted claim 81 and claims dependent therefrom. Applicant has further amended the claims to combine claim 31 with claim 33, thereby making claim 33 independent. Claim 33 states that the substrate is a silicon substrate.

As pointed out in Applicant's specification the blocking layers are Au-Sn, which is the material that forms the blocking layer for the silicon component during annealing (see Applicant's specification, page 119, lines 14 – 21). This is Applicant's blocking layer (21). Applicant further states at page 121, lines 17 – 20 that layers (610b') can be the silicon blocking layer. In all cases, Applicant teaches that the silicon blocking layer is not constructed with the materials disclosed in Carter-Coman. Carter-Coman consistently discloses that the layer (36) (which the Examiner asserts has the function of blocking silicon) is made of NiV or is composed of TiW:N (see '207, column 8, lines 10 – 18 and column 7, line 7).

It is respectfully submitted that the Examiner has not shown that diffusion barriers made of the materials disclosed in Carter-Coman have the function of blocking silicon during annealing. The Examiner has merely pointed out that Carter-Coman contains a diffusion barrier, and then assumes that all diffusion barriers have an inherent function of blocking silicon.

On the other hand, Applicant's specification shows that there are different types of diffusion barriers. Applicant's specification also teaches a blocking layer (610f), which is titanium, nickel or chromium and it is used to prevent the reflective surface contamination by Au from layer (610). This is the type of diffusion barrier taught in Carter-Coman, and not that claimed by Applicant, which has the function of silicon diffusion blocking.

In Applicant's silicon diffusion-blocking layer (610d) as disclosed at page 115, line 14 and at page 115, line 4, the silicon blocking component may be of Sn, Pb, In, Ga and be 20 nm/5 μm thick.

In Carter-Coman, the diffusion-blocking layer is only taught to block certain metallic components. There is no silicon present in Carter-Coman to be blocked. Therefore, Carter-Coman standing alone clearly does not teach or suggest that the specific blocking layer has any capability at all of blocking silicon. Carter-Coman does not support inherency.

In the response to the Final Office Action, the Examiner merely asserted that the Carter-Coman reference had an inherent Si-blocking property of the barrier and that this was relied upon. However, the Examiner has shown no evidence or proof that such

a property is inherent in Carter-Coman. This stands in contrast to the teachings in Applicant's specification that different types of barriers have different blocking functions.

The Examiner has relied upon In re Napier, 555 F3d. 610, 34 USPQ 2d 1782 (Fed. Cir.1995) to support his position. However, Applicant respectfully submits that the Examiner has failed to provide a rationale or evidence tending to show the inherency asserted. This is specifically required by MPEP § 2112 (IV). The Examiner has not only failed to show inherency and extrinsic evidence to make clear that the missing descriptive matter is necessarily present, the Examiner has pointed to a layer which, while described as a blocking layer, does not describe or disclose materials which Applicant teaches are the ones used for blocking silicon. It is clear from the art that there are different blocking layers that perform different blocking functions. The Examiner has not shown that the blocking layer of Carter-Coman has the characteristic or inherent capability of blocking silicon.

The Examiner has not followed the requirements in the MPEP that require that he provide a basis in fact or technical reasoning to reasonably support the determination that the alleged inherent characteristic necessarily flows from the teachings in the applied art.

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action in accordance thereof is requested. In the event there is any reason why the application cannot be allowed in this current

condition, it is respectfully requested that the Examiner contact the undersigned at the number listed below to resolve any problems by Interview or Examiner's Amendment.

Respectfully submitted,

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RRS/bam